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Goal commitment predicts treatment outcome for adolescents with alcohol use disorder

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HIGHLIGHTS

- The definition of Harm Reduction (HR) in youth should include a decrease in consumption in addition to negative consequences.
- Commitment to Abstinence consistently predicted number of drinking and heavy drinking days.
- Commitment to HR did not predict any of the drinking outcomes.
- HR might not be an attainable goal for youth due to delayed neurodevelopmental processes of inhibitive behaviors.

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ABSTRACT

Objective: Commitment to change is an innovative potential mediator and mechanism of behavior change (MOBC) that has not been examined in adolescents with substance use disorders (SUD). The Adolescent Substance Abuse Goal Commitment (ASAGC) questionnaire is a reliable and valid 2-scale measure developed to assess the adolescent's commitment to either abstinence or harm reduction (HR) that includes consumption reduction as a stated treatment goal. The objective of this study was to examine the ASAGC's ability to predict alcohol use treatment outcome.

Method: During sessions three and nine of a 10-week treatment program, therapists completed the ASAGC for 170 adolescents 13–18 years of age with alcohol use disorder (AUD). Drinking behaviors were assessed during and after a continued-care phase until 12-month from study onset.

Results: Analysis of Variance results indicated that adolescents who reported no alcohol use had significantly higher scores on the commitment to abstinence scale than adolescents who reported alcohol use. None of the ANOVA models were significant for commitment to HR. When treatment outcome was examined, commitment to abstinence consistently predicted number of drinking days, number of heavy drinking days, and the maximum number of drinks post-treatment. In contrast, commitment to HR did not predict any of the drinking outcomes. These results suggest that the more adolescents were committed to abstinence during treatment, the less they used and abused alcohol after treatment completion.

Conclusions: In addition to the ASAGC's ability to differentiate between commitment to abstinence and commitment to HR, study findings demonstrate that goal commitment consistently predicts AUD treatment outcome.

1. Introduction

Significant progress has been made over the past twenty years in the development of evidence-based practice treatment protocols for youth with alcohol and other substance use disorders (AOSUD; Dennis & Kaminer, 2006; Passetti, Godley, & Kaminer, 2016). Most interventions have been provided in outpatient settings where the vast majority of adolescents are treated. The focus has been on several therapeutic approaches and modalities including family/community therapies, cognitive behavioral therapy, motivational interviewing, and 12-step/fellowship meetings as reviewed in recent meta-analyses (Becker & Curry, 2008; Hogue, Henderson, Ozechowski, & Robbins,

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2014; Waldron & Turner, 2008), as well as integrated interventions reported in the benchmark cannabis Youth Treatment (CYT) study (Dennis, Godley, Diamond, et al., 2004).

Despite prominent differences in theory, design, and methodology, studies employing various treatment modalities in youth with AOSUD have reported remarkably similar outcomes (Hogue et al., 2014; Waldron & Turner, 2008). Rates of adolescent relapse of substance involvement are comparable to those of adults during the first year of post treatment completion (Chung & Maisto, 2006; Kaminer, Burleson, & Goldberger, 2002). Research has shown that about 60% of adolescents continue to vacillate in and out of abstinence after discharge from 12-week treatment programs (Dennis et al., 2004: Williams & Chang, 2000). At this point, relatively little is known about mechanisms of behavior change (MOBC) in adolescents receiving these interventions, which highlights the need to study the underlying processes involved as reviewed by Black & Chung, (2014). Changes in self-efficacy (Burleson & Kaminer, 2005; Moss, Kirisci, & Mezzich, 1994), coping skills (Waldron & Kaminer, 2004), perceived difficulty to abstain (King, Chung, & Maisto, 2009) and motivation or readiness to change (O'Leary & Monti, 2004) appear to account for some portion of treatment effects.

Goal-setting as a predictor of AOSUD treatment outcome has not been well studied. According to the Goal-Setting Theory (Locke & Latham, 2002), specific goal setting is related to better performance due to reducing ambiguity. The only adult study that investigated the role of goal setting in cannabis treatment outcomes reported that initial goal setting was associated with abstinence or moderate use as the desired outcomes (Lozano, Stephens, & Roffman, 2006). Spinola, Park, Maisto, and Chung (2017) conducted the only adolescent study on youth AOSUD outcomes and goal setting. They reported that goal setting predicted lower cannabis use and that adolescents with lower frequency of cannabis use are more likely to set abstinence-related goals.

Kelly and Greene (2013) noted that a potentially higher order construct of motivation to change may reflect commitment to change by adhering to identified treatment goals. They argued that "in contrast to being motivated to change, being committed to change implies the presence of a stronger desire that is more compelling and forceful, and that may be less susceptible to the undulating future circumstances and contingencies that so often weaken resolve and make motivation fluctuating." Consequently, they developed and tested a five-item commitment to sobriety scale for emerging adults 18–25 years of age. In addition, Hall, Havassy, and Wasserman (1991) developed a single-item commitment to abstinence questionnaire for adults, which used six response categories to differentiate the participant's goals surrounding abstinence. This measure was validated by subsequent research (Mensinger, Lynch, TenHave, & McKay, 2007; Morgenstern, Frey, & McCrady, 1996). Although commitment to treatment goals has been examined in adults, it is not clear whether it similarly is a salient mechanism for change in adolescents receiving treatment for AOSUD.

The traditional goal of treatment has been abstinence. However, the adult oriented harm reduction (HR) literature has focused mainly on reduction of negative consequences without addressing abstinence or even decrease in consumption as goals (Marlatt, 1998; Marlatt & Witkiewitz, 2010). Harm reduction might be the preferred choice for some adolescents who do not wish to commit to abstinence. Although, when it comes to adolescents, it is prudent to add consumption reduction as a goal in order to achieve reduction of negative consequences. The reason for that added goal when examining treatment outcome of alcohol use disorders (AUD) is that many adolescents are still on a trajectory of increased drinking (i.e., frequency, quantity) and negative consequences until their mid-twenties when the maturational development of the pre-frontal cortex is complete (Chung & Martin, 2011; Derefinko et al., 2016; Rutherford, Mayes, & Potenza, 2010). It is noteworthy that adolescents might also drift between the two goals of abstinence and HR at different points in the continuity of care from baseline evaluation through treatment and continued care (Kaminer & Godley, 2010). Therefore, in contrast to the adult literature, in this paper the term HR in adolescents has been used to reflect a harm/consumption reduction approach. The value of a HR approach for adolescents has been noted as a potential goal for both an empirical examination and an effective intervention (Colby, Lee, Lewis-Esquerre, Esposito-Smythers, & Monti, 2004). Unfortunately, this important observation has not generated studies of HR in youth.

Our team has developed an instrument: the Adolescent Substance Abuse Goal Commitment questionnaire (ASAGC) to assess both models of treatment outcome: commitment to HR and commitment to abstinence, and reported its psychometric properties and clinical utility (Kaminer, Ohannessian, McKay, & Burke, 2016) As of yet, we are unaware of any investigation that has examined and compared these outcome models in adolescents with AUD.

The present report addresses the predictive utility of goal commitment. That is, the primary goal of this study is to examine whether the ASAGC predicts treatment outcome in adolescents receiving treatment for AUD while addressing both models of treatment outcome. Specifically, the following research questions are addressed: 1) does a commitment to harm reduction or a commitment to abstinence predicts a reduction in alcohol use during treatment, continued care, and follow-up? And 2) what is the expected difference in outcomes between these two different goal settings?

2. Method

2.1. Participants and procedures

The sample included 170 adolescents 13–18 years of age (67% male; 79% Caucasian) who received treatment for a current DSM-IV diagnosis of an alcohol use disorder (AUD). The study was based on a prospective, intent to treat design. The treatment phase consisted of ten weekly manualized cognitive behavioral therapy sessions. Adolescents also were assessed following a continued/after-care phase (14 weeks after treatment completion) and up to 12 months from study onset. For additional information relating to the study design, please refer to Kaminer, Burleson, and Burke (2008). The study protocol and the informed assent and consent procedures were approved by the UConn Institutional Review Board.

2.2. Measures

2.2.1. Commitment to a treatment goal

The 16-item Adolescent Substance Abuse Goal Commitment questionnaire (ASAGC; Kaminer et al., 2016) was completed by the therapists of the adolescents during sessions 3 and 9 of treatment. The ASAGC measures the individual's commitment to his/her stated treatment goal. ASAGC items are completed on a response scale ranging from 0 = *definitely not* to 4 = *definitely committed*. A sample ASAGC item is "Does the adolescent express commitment to abstinence as a goal?" The ASAGC includes two scales: one reflecting commitment to harm reduction and the other reflecting commitment to abstinence. The ASAGC has been shown to be a valid and reliable measure of adolescents' commitment to their treatment goal (Kaminer et al., 2016). In the present sample, the Cronbach alpha coefficients were 0.96 for harm reduction and 0.92 for abstinence.

2.2.2. Alcohol use

The adolescent self-reported use in the past month and since the last assessment was the primary source of alcohol consumption (given that at the time of the study objective detection of alcohol use through saliva, hair, and skin did not accurately reflect use). In addition, participants completed the Alcohol Consumption Questionnaire (ACQ; Cahalan, Cisin, & Crossley, 1969; Cahalan, 1981) during continued care and at the 12-month follow-up session. This measure yields the